know and of what we do not yet know about marine primary productivity.—*Peter B. Ortner, Atlantic Oceanographic and Meteorological Laboratory, National Oceanic and Atmospheric Administration, 4301 Rickenbacker Causeway, Miami, Florida 33149.*

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LABORATORY ANIMAL MANAGEMENT MARINE INVERTEBRATES. *Committee on Marine Invertebrates, Institute of Laboratory Animal Resources, Assembly of Life Sciences, National Research Council. National Academy Press, Washington, D.C. 1981. 382 pp. $19.25.*

Although the cover page does not clearly indicate as much, this is an excellent manual summarizing recently developed methods for maintaining and rearing marine invertebrates. The manual was written by the committee on marine invertebrates of the National Research Council which consists of members drawn from the Councils of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine.

The manual is divided into two parts. Part I, containing 11 chapters, deals with general information on such topics as seawater as a biological medium, the laboratory marine aquarium, aquarium ecology, collecting and handling marine invertebrates, food and feeding, anesthetics and geographical sources. In addition, Chapter 10 discusses marine invertebrate species commonly used in culture and has an excellent bibliography of pertinent references. The last chapter in Part I has a general discussion of marine larval forms and their culture. Each chapter in Part I has, as a part of its text, significant references to aid any newcomer to the science of marine invertebrate culture, especially those in laboratories without immediate access to the oceans. All aspects of invertebrate culture are taken into account. They are concisely discussed and other sources of guidance are given.

Part II is devoted to specific techniques for culturing marine invertebrates. The culture of the following species is discussed in detail: sea anemones, polychaetous annelids, *Aplysia, Ilyanassa obsoleta,* bivalve molluscs, crabs, *Limulus polyphemus* and *Lytechinus pictus*. Each chapter is concerned with one of the above invertebrates and is written by a different author or authors, all of whom are experts in handling specific invertebrate groups or species. Methods used for the laboratory culture, care and handling, food requirements and problems associated with the culture of these invertebrates are well detailed and referenced. The graphs, detailed drawings, charts, formulas and photographs make the culture techniques very clear to the reader. Any special equipment or materials mentioned in the text are also referenced in terms of source supplier or manufacturer with complete address. The various authors have obviously made every effort to instruct clearly the reader on the culture techniques and materials they are using, and they do not assume any previous knowledge on the part of the reader. References to other related techniques or species are also included.

This manual also includes source listings for permits and licenses, equipment and supplies, marine organism suppliers and the addresses of state fish and game departments. Over one thousand scientific references are included.

This paperback book is a handy reference for anyone doing invertebrate culture, and will be of greater importance to anyone culturing the species, or a closely related species, emphasized in Part II.—*Barbara Jayne Palko, National Marine Fisheries Service, Southeast Fisheries Center, Panama City Laboratory, 3500 Delwood Beach Road, Panama City, Florida 32407.*